SOLAR OBSERVATIONS.

SOLAR AND SKY RADIATION MEASUREMENTS DURING APRIL, 1922.

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For a description of instruments and exposures and an account of the method of obtaining and reducing the measurements, the reader is referred to this REVIEW for April, 1920, 48:225.

From Table 1 it is seen that direct solar radiation intensities averaged above normal for April at Washington, and close to normal at the other two stations. Pyrheliometric observations have been discontinued at the Santa Fe station on account of the removal of the Weather Bureau office to a site poorly adapted for this work.

Table 2 shows that the total solar and sky radiation received on a horizontal surface averaged above the April normal at Washington and slightly below at Madison, Wis.

Skylight polarization measurements made on three days at Washington give a mean of 56 per cent, with a maximum of 59 per cent on the 24th. These are about average April values. The value of 70 per cent on the 18th is the highest ever observed at Madison in April. The monthly mean of 60 per cent is about normal.

TABLE 1.—*Solar radiation intensities during April, 1922.*

[Gram-calories per minute per square centimeter of normal surface.]

Washington, D. C.

Date.	Sun's zenith distance.										
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th meridian time.	Air mass.									Local mean solar time.
		A. M.					P. M.				
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
Apr. 3	3.63				1.13						3.63
10	12.68			0.84	1.09						9.83
12	5.79						1.04	0.84	0.70		4.95
13	7.29	0.52	0.63	.73							7.29
20	3.48	.85	.91	1.00	1.18		1.29				2.06
24	2.74	.82	.94	1.10	1.27	1.51					2.26
Means		.75	.84	.92	1.17		(1.16)	(.84)	(.70)		
Departures		+.06	+.09	+.03	+.10		+.08	−.05	−.04		

* Extrapolated.

TABLE 1.—*Solar radiation intensities during April, 1922*—Continued.

Madison, Wis.

Date.	Sun's zenith distance.										
	8a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th meridian time.	Air mass.									Local mean solar time.
		A. M.					P. M.				
	e.	5.0	4.0	3.0	2.0	1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
Apr. 1	3.30		1.05	1.17	1.29						3.45
7	11.38						1.23				8.18
15	5.16				1.13						5.36
18	3.45			1.14	1.33	1.48					5.36
20	3.45				1.19						3.63
22	3.81			.98	1.16	1.36					3.99
23	5.16				1.09						4.95
Means			(1.05)	1.10	1.20		(1.23)				
Departures			±.00	±.00	−0.03		−0.01				

Lincoln, Nebr.

Apr. 7	6.02				1.14		1.09	0.85	0.65	0.45	7.04
11	4.75						1.31	1.12	1.03		4.75
14	6.27						1.32	1.16	.95		5.16
15	6.27		0.99	1.12	1.28	1.47	1.14	.94	.77	.66	6.50
19	3.15			1.19	1.37		1.27	.95			2.49
20	5.16			0.90	1.07						7.04
21	6.27	0.68	.79	.99	1.20	1.36	1.13	.94	.78	.65	6.50
22	5.36	.67	.80	.95	1.14	1.37					8.18
29	6.50		.78	.91							3.63
Means		(.68)	.84	1.01	1.20		1.21	.99	.84	.59	
Departures		−.06	−.01	±0.00	−0.02		+.03	+.01	+.01	−.03	

TABLE 2.—*Solar and sky radiation received on a horizontal surface.*

Week beginning.	Average daily radiation.			Average daily departure for the week.			Excess or deficiency since first of year.		
	Washington.	Madison.	Lincoln.	Washington.	Madison.	Lincoln.	Washington.	Madison.	Lincoln.
	cal.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*
Apr. 2	345	251		−45	−126		−1907	−1522	
9	415	296		+ 8	− 97		−1851	−2197	
16	367	445		−58	+ 32		−2257	−1970	
23	531	479		+87	+ 45		−1651	−1652	

MEASUREMENTS OF THE SOLAR CONSTANT OF RADIATION, AT CALAMA, CHILE.

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NOTE.—Owing to delay in transmission, the data from South America will be included in the next issue of the REVIEW.—EDITOR.